

WE CLAIM:

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1. A method of controlling data traffic in a wireless data communications network comprising a plurality of wireless data communications links, the method comprising the steps of:
 - a) systematically examining performance of the wireless links to identify a poorly performing wireless link; and
 - b) at least temporarily interrupting data transmission over the poorly performing wireless link.
 2. A method as claimed in claim 1, wherein the step of systematically examining performance of the wireless links to identify a poorly performing wireless link comprises steps of monitoring one or more performance parameters related to each wireless link, and comparing each monitored performance parameter to a respective predetermined threshold value.
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DI 3. A method as claimed in claim 2, wherein the one or more performance parameters related to each wireless link are based on any one or more of a quality-of-service (QOS), and interference on the wireless link.
 4. A method as claimed in claim 3, wherein at least one of the performance parameters related to each wireless link is based on interference on the wireless link, and comprises any one or more of: a signal-to-noise (S/N) ratio; a user data throughput rate; a carrier-to-interference (C/I) ratio; a

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bit-error-rate (BER); and a number of suspended frames.

5. A method as claimed in claim 4, wherein at least one of the performance parameters related to each wireless link comprises an average, taken over a number n of successive bursts, of any one or more of the S/N ratio; the C/I ratio; the user data throughput rate; and the BER.
6. A method as claimed in claim 4, wherein the step of interrupting data transmission over the poorly performing wireless link comprises a step of suspending transmission of a data frame over the poorly performing wireless link.
7. A method as claimed in claim 6, further comprising a step of resuming transmission of the data frame after a delay period.
8. A method as claimed in claim 7, wherein the delay period is a period of random length.
9. A method as claimed in claim 5, further comprising maintaining a count of suspended frames.
10. A method as claimed in claim 9, further comprising suspending a communications session over the wireless link if the count of suspended frames exceeds a predetermined threshold.
11. A method as claimed in claim 10, further comprising restarting the session after a predetermined delay.

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12. A method as claimed in claim 11, wherein the predetermined delay is a period of random length.

sub D1/ 13. A method as claimed in claim 3, wherein at least one of the performance parameters related to each wireless link is a QOS performance parameter comprising any one or more of a data transmission delay, and a number of dropped frames.

sub D1/ 14. A method as claimed in claim 13, wherein the step of interrupting data communications over the poorly performing wireless link comprises a step of dropping a data frame transmitted over the poorly performing wireless link.

sub D1/ 15. A method as claimed in claim 13, further comprising a step of re-transmitting the dropped frame after a delay period.

16. A method as claimed in claim 15, wherein the delay period is a period of random length.

17. A method as claimed in claim 13, further comprising maintaining a count of dropped frames.

18. A method as claimed in claim 17, further comprising dropping the session if the number of dropped frames exceeds a predetermined threshold.

19. A method as claimed in claim 13, wherein the step of monitoring a respective performance parameter respecting each wireless link comprises a step of predicting whether a QOS performance parameter is

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certain to violate a corresponding QOS requirement of a communications session on the link.

20. A method as claimed in claim 19, wherein the step of interrupting data communications over the poorly performing wireless link comprises a step of preemptively dropping a data frame being transmitted over the poorly performing wireless link.

21. A wireless data communications network comprising a base station capable of wireless communication with each one of one or more wireless stations over respective communications links, the network comprising:

- a) computing means for identifying a poorly performing wireless link; and
- b) control means adapted to at least temporarily interrupt data transmission over the poorly performing wireless link.

22. A network as claimed in claim 21, wherein the computing means comprises means for monitoring one or more performance parameters related to each wireless link, and comparing each monitored performance parameter to a respective predetermined tolerance.

23. A network as claimed in claim 22, wherein the one or more performance parameters related to each wireless link are based on any one or more of a quality-of-service (QOS), and interference on the wireless link.

24. A network as claimed in claim 23, wherein at least one of the performance parameters related to each wireless link is based on interference on the link, and comprises any one or more of: a signal-to-noise (S/N) ratio; a carrier-to-interference (C/I) ratio; a bit-error-rate (BER); a user data throughput rate; and a number of suspended frames.
25. A network as claimed in claim 24, wherein at least one of the performance parameters related to each wireless link comprises an average, taken over a number n of successive bursts, of any one or more of the S/N ratio; the C/I ratio; the user data throughput rate; and the BER.
26. A network as claimed in claim 24, wherein the control means is adapted to suspend transmission of a data frame over the poorly performing wireless link.
27. A network as claimed in claim 26, further comprising means for resuming transmission of the data frame after a delay period.
28. A network as claimed in claim 27, wherein the delay period is a period of random length.
29. A network as claimed in claim 25, wherein the computing means is further adapted to maintain a count of suspended frames.
30. A network as claimed in claim 29, wherein the control means is adapted to suspend a communications session over the wireless link if the count of suspended frames exceeds a predetermined threshold.

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31. A network as claimed in claim 30, further comprising means for restarting the session after a predetermined delay.

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32. A network as claimed in claim 31, wherein the predetermined delay is a period of random length.

33. A network as claimed in claim 23, wherein at least one of the performance parameters concerning each wireless link is a QOS performance parameter comprising any one or more of a data transmission delay, and a number of dropped frames.

34. A network as claimed in claim 33, wherein the control means is adapted to drop a data frame transmitted over the poorly performing wireless link.

35. A network as claimed in claim 33, further comprising means for re-transmitting the dropped frame after a delay period.

36. A network as claimed in claim 35, wherein the delay period is a period of random length.

37. A network as claimed in claim 33, wherein the computing means is adapted to maintain a count of dropped frames.

38. A network as claimed in claim 37, wherein the control means is adapted to drop the session if the count of dropped frames exceeds a predetermined threshold.

39. A network as claimed in claim 33, wherein the computing means is adapted to compute a probability

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respecting whether the QOS performance parameter is certain to violate a corresponding QOS requirement of a communications session on the link.

40. A network as claimed in claim 39, wherein the control means is adapted to preemptively drop a data frame being transmitted over the poorly performing wireless link.

41. A base station in a wireless data communications network, the base station being adapted for communications with each one of one or more wireless terminals over respective wireless communications links, the base station comprising:

- a) computing means for identifying a poorly performing wireless link; and
- b) control means for at least temporarily interrupting data transmission over the poorly performing wireless link.

42. A base station as claimed in claim 41, wherein the computing means comprises means for monitoring one or more performance parameters related to each wireless link, and comparing each monitored performance parameter to a respective predetermined tolerance.

43. A base station as claimed in claim 42, wherein the one or more performance parameters related to each wireless link are based on any one or more of a quality-of-service (QOS), and interference on the link.

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50. A base station as claimed in claim 49, wherein the control means is adapted to drop a data frame transmitted over the poorly performing wireless link.
51. A base station as claimed in claim 49, wherein the computing means is adapted to maintain a count of dropped frames.
52. A base station as claimed in claim 51, wherein the control means is adapted to drop the session if the count of dropped frames exceeds a predetermined threshold.
53. A base station as claimed in claim 49, wherein the computing means is adapted to compute a probability respecting whether the QOS performance parameter is certain to violate a corresponding QOS requirement of a communications session on the wireless link.
54. A base station as claimed in claim 53, wherein the control means is adapted to preemptively drop a data frame being transmitted over the poorly performing wireless link.

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